

Specification

12 October 2015

CURRENEX

Loans and Deposits FIX RFQ Specification

Please contact Currenex sales representatives and help desk personnel for more information on this documentation.

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1 INTRODUCTION

1.1 Purpose

The purpose of this document is to present in detail the Financial Information eXchange (FIX) protocol subset used by the Currenex Request for Execution (RFQ) service.

This Currenex FIX offering supports automated Loans and Deposits quote request, order entry, and order execution on the Currenex platform.

This document describes the Currenex RFQ FIX offerings and provides a detailed description of the supported message set.

1.2 Request for Quotes (RFQ)

The RFQ trading model allows clients such as corporations and managed funds to send a request for Loans and Deposits quotes in real-time. The RFQ service can handle all currency pair combinations from major crosses to exotics crosses, allowing clients to gain access to the deep liquidity pool available on Currenex.

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2 PRODUCT DETAILS

2.1 General Workflow

The RFQ workflow is based on the FIX standard RFQ specification (as specified in FIX version 4.4) with certain custom defined fields.

1. The client sends a Quote Request (MsgType = R) message to the server. If the RFQ is to be directed to multiple Market Makers (MMs), the message must include the ID of each MM.
2. For whatever reason if the Quote Request is rejected by the server, the server will send a Quote Request Reject (MsgType = AG) message indicating the error. In the error case, the workflow sequence would end here.
3. For successful Quote Requests, Quote (MsgType=S) messages from MMs are returned to the client by the server. The client is not obligated to accept any active Quote and can send a Quote Cancel (MsgType = Z) message to the server at any time during the active Quote session to cancel the Quote Request. This is a valid end to the RFQ workflow.
4. A Quote Request session is active for a predefined amount of time. During this time, MMs will continue to update quotes to the client through the server. Any new Quote from the same MM should imply the previous Quote from this MM is canceled.
5. The client can accept a Quote from any MM at any time during the active lifecycle of a request by sending a New Order Single (MsgType=D) message with OrdType set to D for previously quoted. After receiving an initial Execution Report (MsgType = 8) with field ExecType set to New, the client will receive another Execution Report with ExecType set to either Fill, if completely filled, or Rejected if the MM rejected the order. Regardless of the order outcome, this order workflow is terminated after the second Execution Report message.
6. If the Quote Request lifecycle ends before the client cancels or accepts a Quote, the server will send an Execution Report message to the client with ExecType = C to indicate the request has expired. This is a valid end to the RFQ workflow.

Other potential states to the RFQ workflow exist and are covered in other sections.

3 CONNECTIVITY

MMs and MPs can connect to the Currenex FIX Gateway via the Public Internet, financial extranets or a private network. Please refer to the “FIX Network Connectivity” document, (which can be found on the integration-support site or from your Currenex representative), for further details relating to connectivity.

4 SUPPORTED MESSAGES

The Currenex FIX specification utilizes FIX version 4.4. The following convention is used in this document to indicate message direction:

- In: a message sent by a client to Currenex
- Out: a message sent by Currenex to the client.
- In/Out: a message that can be sent to or from a client or Currenex.

Available fields, requirements, values and their associated meanings are documented in the [Message Details](#) section.

4.1 Session Messages

Session messages establish, maintain and terminate a client to Currenex connection.

For a detailed description of FIX Session related information, including Session Message details and information on Sequence Number Resets, please refer to the “FIX Session Specification” (which can be found on the integration-support site or from your Currenex representative)

- Logon – (In/Out) message sent by the client to initiate a FIX session to Currenex. The Logon message establishes the communication session, authenticates the connecting client, and initializes the message sequence number.
- Heartbeat – (In/Out) message sent by Currenex during periods of application inactivity to ensure connection validity. Clients should respond to heartbeat messages upon receipt.
- Resend Request – (In/Out) message that can be sent by either Currenex or the client to request certain messages be resent. Often used when gaps are detected in the sequence numbering, when a message is lost, or during the initialization process.
- Test Request – (In/Out) used to verify session connectivity and to synchronize sequence numbers. Either Currenex or the client can send a test request message, which should be responded to with a heartbeat message from the receiving party.
- Logout – (In/Out) message signaling the normal termination of the trading session. Sessions terminated without a Logout message will be considered an abnormal condition. The Currenex FIX gateway treats a client as logged out whenever the communication session is dropped.
- Trading Session Status – (Out) application message sent from Currenex to a client prior to a sequence number reset event with the `TradSesStatus` field set to `Pre-Close`.
- Business Message Reject – (Out) application message sent in response to any application level message that cannot be replied to with a normal matching response message. For example, Currenex sends it when required field is missing on the inbound message.

A reject can also be sent when a request message is received outside of trading hours. For a schedule of non-trading hours, please contact your local member service representative.

4.2 Application Messages

Once a proper session is established, clients use application messages to receive quotes, to submit orders, and to receive executions reports.

Refer to the [Message Details](#) section for descriptions of individual message.

- Quote Request – (In) Message sent by the client to initiate an RFQ. This same message is used for spot, forward or swap requests.
- Quote – (Out) If the RFQ request is properly formed and accepted by the trading service, target MM(s) will start sending valid Quotes back to the client. The Quote message can indicate an initial quote or a quote update.
- Quote Cancel – (In/Out) The Quote Cancel message indicates a MM has canceled a previously valid quote. This message is not terminal. Unless the quoting period is over or if the client actively cancels the request, the MM can continue to submit quotes after canceling a quote.

The client can also use Quote Cancel to close a quote request without accepting quote from a MM. When used in this case, the quote session is terminated once the message is received by Currenex.

- Quote Acknowledgement – (Out) If a Quote Request cannot be accepted by the trading service, the client will receive an acknowledgement with rejection status and message indicating the reason for the reject. This means that the MM has rejected the RFQ request.
- New Order (Single) – (In) message sent by the client to input an order into the Currenex trading system. New Orders can be spot, forward or swap. OrdType must be D, for previously quoted.
- Execution Report – (Out) message returned to a client in response to a New Order upon completion or rejection of an order. In each case, the Execution Report will show the current state of the order in question.

5 MESSAGE WORKFLOW

5.1 Quote Request

The following symbols are used in the below workflow:

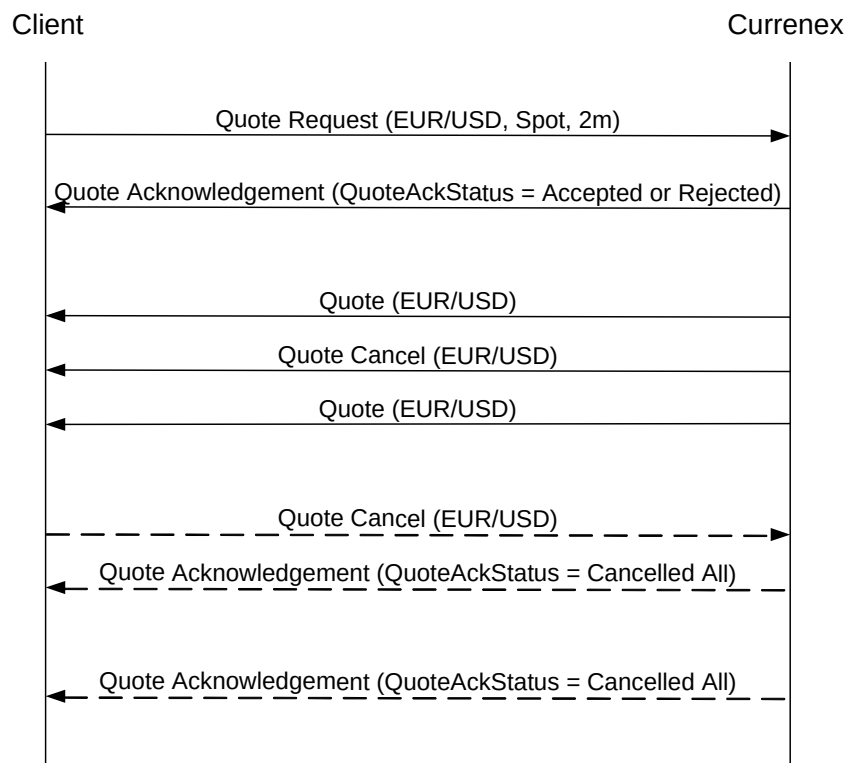


Figure 1: Quote Request Workflow.

Each Quote Request message can contain only one instrument request, repeated groups of instruments are not currently supported.

5.2 Pre-Trade Allocations

Pre-Trade Allocations can be specified in the QuoteRequest message. The number of allocations to be made is specified in `NoAllocs` (78). All allocations use the same instrument and dealt currency as specified in QuoteRequest message. If the allocation amount, `AllocQty` (80), is specified as positive number then allocation side is the same as that specified in tag 54, otherwise it is the opposite. The reverse rule is used for the swap allocation's far leg `AllocQty2` (7592). The summary of all allocations quantities in `AllocQty` (80) must match the value in `OrderQty` (38). The total summary for far leg `AllocQty2` (7592) must match `OrderQty2` (192).

5.3 Quote Cancel

Quote Cancel message can originate from either the client or from the MM. If the client wishes to cancel the quote request for whatever reason, the client would send a Quote Cancel message to Currenex. When used in this case, the quote session is terminated once the message is received by Currenex. If the client has accepted a quote and is in the process of waiting for acceptance acknowledgement, then Quote Cancel message can no longer be sent.

A MM can send a Quote Cancel message to the client to indicate a quote has been canceled. A Quote Cancel message is not terminating, meaning new quotes can still be sent after a previous quote has been canceled with a Quote Cancel message.

5.4 Quote Period Termination

A quote request is good for two hundred and forty (240) seconds for all instruments and tenors. If at the end of the quote period a client has not accepted a quote, a MM will send a Quote Acknowledgement message to the client with the `QuoteAckStatus` field set to 4 = canceled all. This means the quote period has been terminated and the quote session is over.

5.5 Order Input and Execution

A New Order Single message is used to place orders into the Currenex system. Currenex replies to a New Order Single message with an Execution Report message, which will indicate whether or not the order has been accepted.

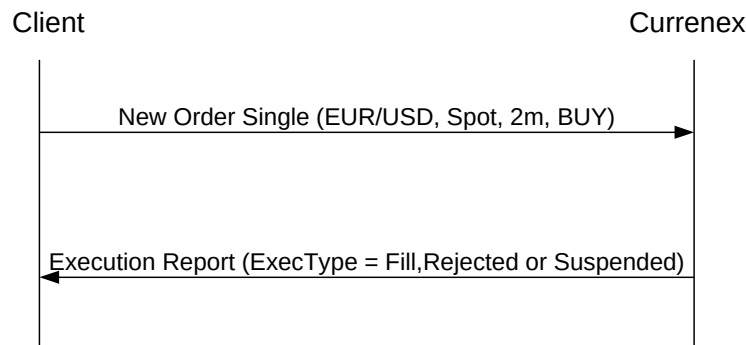


Figure 2. RFQ Order entry workflow.

5.5.1 Order Types

The only order type supported for FIX RFQ trading is “D”, previously quoted order type.

Orders with an unsupported OrdType value shall be rejected.

5.5.2 Execution Reports

Currenex sends Execution Report messages to:

- Relay order fill information on active orders
- Reject an order
- Indicate the RFQ process has expired

In a normal workflow Currenex will send an Execution Report message to the client if the order is confirmed with the MM. Orders are always filled in full. Partial fills are not supported.

If the order is rejected by the MM, then Currenex sends to the client an Execution Report message with OrdStatus (39) as well as ExecType (150) with values of 4 (rejected).

5.5.3 Time Outs

If a bank fails to respond to a new order single message request within a specified period of time, an execution report will be sent with tag 150 = 9, indicating the order’s status is in an indeterminate state.

Upon resolving the true state of the trade with the price quoting bank, the Currenex Customer Support Desk will either manually “promote” the order to filled or “demote” it to cancel. An execution report will then be sent out with the resolved status:

For Promoted trades:

Tag 20 (ExecTransType) = 2 (Correct)

Tag 150 (ExecType) = 2 (Fill)

For Demoted trades:

Tag 20 (ExecTransType) = 2 (Correct)

Tag 150 (ExecType) = 4 (Canceled)

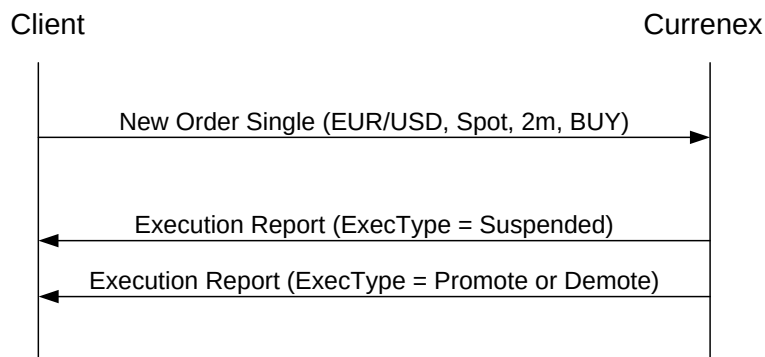


Figure 3. RFQ Time Out Trades workflow.

5.5.4 Order Processing Exceptions

Situations can arise when the MM fails to notify the client the final disposition of an order on an RFQ within a time interval. If the MM fails to respond in a timely manner, Currenex will send a special Execution Report message to the client noting the exception.

If the MM does not respond within the configured time (system dependent, please check with representative for actual duration), the fill would not be marked as executed. The Execution Report will have a value of "9" in the ExecType field, indicating the execution has been suspended. At this point, the order is considered closed.

6 MESSAGE DETAILS

Currenex supports all FIX version 4.4 required fields and a portion of the non-required fields. The fields that make up each message are described in this section.

The values under the “Required” column indicate one of the following:

‘Y’:	field is mandatory and must be sent or received as a part of the message.
‘N’:	Non-required field that should be omitted unless directed otherwise by Currenex.

6.1 Passwords for Logon Messages

The Currenex service requires users connecting via the FIX protocol to present a password as part of the logon message. Please refer to the “FIX Password Specification” (which can be found on the integration-support site or from your Currenex representative), for further details relating to passwords including password resets.

6.2 Session Messages

For a detailed description of FIX Session related information, including Session Message details and information on Sequence Number Resets, please refer to the “FIX Session Specification” (which can be found on the integration-support site or from your Currenex representative)

6.3 Application Messages

6.3.1 Quote Request

Tag	Field Name		Req'd	Comments	Example
Standard Header			Y	MsgType = R	R
131	QuoteReqID		Y		123abc
Component block < QuoteRegGrp>					
146	NoRelatedSym		Y	Number of related symbols (instruments) always 1	1
→ Component block <Instrument>					
→	55	Symbol	Y	The currency to be loaned or deposited	USD
→	460	Product	Y	Supported values: 9=MoneyMarket	9
→	541	MaturityDate	Y	Maturity date in YYYYMMDD format	20120823
→	7072	DayCount	Y	Custom field. Day Count Convention. Supported values: 30/360, ACT/360, ACT/365	ACT/360
→ End component block <Instrument>					
→	54	Side	Y	Supported Values: 1= Buy (Loan) 2 = Sell (Deposit)	2
→	38	OrderQty	Y	The amount to be loaned or deposited. For roll requests, this field represents total amount, including any interest to be rolled.	1001000
→	64	SettlDate	Y	Settlement date in YYYYMMDD	20120723

Tag	Field Name		Req'd	Comments	Example
				format	
→	1	Account	N	Account (subfund)	acc1
→	1126	OrigTradeID	N	Used for requests to roll internal currenex trades. Represents the Currenex trade id of the trade to be rolled. At most one of tags 1126 and 1127 can be specified.	A20121040005S00
→	1127	OrigSecondaryTradeID	N	Used for requests to roll external maker trades that don't exist on the Currenex system. Represents the external trade id. At most one of tags 1126 and 1127 can be specified.	2098310298
Component <Parties>			N		
453	NoPartyIDs		Y	Number of PartyIDs to follow	2
→	448	PartyID	Y	Maker Party ID or Routed user ID for on behalf of trades when PartyRole = 3	Bank1
→	447	PartyIDSource	Y	D - Proprietary	D
→	452	PartyRole	Y	1 = Executing Firm (Currenex defined entity under which the trade will be booked) 3=ClientID (Routed user id for on behalf of requests.	1
End Component <Parties>					
end component block < QuotReqGrp >					

Tag	Field Name		Req'd	Comments	Example
Component <Allocations>			N		
78	NoAllocs		Y	Number of repeating allocations. Number of allocations possible is 0 to n.	1
→	79	AllocAccount	Y	Sub-account for allocation	subAccount1
→	80	AllocQty	Y	Quantity to be allocated to specific sub-account. Note: total quantity of all leg allocation amounts must equal amount specified in 38(OrderQty). Positive AllocQty indicates alloc side = specified side. Negative AllocQty indicates alloc side = opposite of specified side	30000
Standard Trailer					

6.3.2 Quote

Tag	Field Name		Req'd	Comments	Example
Standardheader			Y	MsgType = S	
131	QuoteReqID		Y	ID of the QuoteRequest that this Quote is being sent in response to	123abc
117	QuoteID		Y		111aaa
Component <Parties>			N		
453	NoPartyIDs		Y	Quoting bank id	1
→	448	PartyID	Y	PartyID.	bank1
→	447	PartyIDSource	Y	D - Proprietary	D
→	452	PartyRole	Y	1 = Executing Firm (Currenex defined entity under which the trade will be booked)	1
End Component <Parties>					
component block <Instrument>					
55	Symbol		Y	Required by FIX spec	USD
end component block <Instrument>					
132	BidPx		N	Bid all-in rate for spot, forward or near leg swap instruments	5.3
133	OfferPx		N	Offer all-in rate for spot, forward or near leg swap instruments.	5.4
Standard Trailer					

6.3.3 Quote Cancel

Tag	Field Name	Req'd	Comments
StandardHeader		Y	MsgType = Z
131	QuoteReqID	Y	Quote Request ID
117	QuoteID	Y	QuoteID of the Quote to cancel. When used to cancel QuoteRequest from the Client, set to NA
298	QuoteCancelType	Y	Identifies type of cancel. Supported values: 4 – End of RFQ for MM 5 – Cancel quote specified in QuoteID
295	NoQuotesEntries	Y	Number of quotes to cancel; e.g., 1
55	Symbol	Y	The currency pair of the order.
StandardTrailer		Y	

6.3.4 Quote Acknowledgement

Tag	Field Name	Required	Comments
	<i>Standard Header</i>	Y	MsgType tag 35 = b
131	QuoteReqID	Y	Original quote request ID.
297	QuoteAckStatus	Y	Status of the quote acknowledgement. 0 = Accepted 4 = Cancelled All 5 = Rejected 54 = RFQ not quoted
58	Text	N	Descriptive text field.
	<i>Standard Trailer</i>	Y	

6.3.5 Order Single

Tag	Field Name		Req'd	Comments	Example
Standardheader			Y	MsgType = D	
11	ClOrdId		Y	Client order id	1234fdsa
526	SecondaryClOrdID		Y	QuoteRequestID	123abc
Component <Parties>			N		
453	NoPartyIDs		N	If present, always 1	1
	448	PartyID	N	Routed (owner) user id for on behalf of order	client1
	452	PartyRole	N	3= ClientID	3
End Component <Parties>			N		
1	Account		N	The account (SubFund id) name agreed to with Currenex or else defaulted by the system. A FIX connection can have one or more trading accounts	Subfund1
Component block <Instrument>					
55	Symbol		Y	Repeats value provided in QuoteRequest	USD
460	Product		Y	Supported Value: 9=MoneyMarket	9
End component block <Instrument>					
54	Side		Y	Order side: 1 = Buy (loan) 2 = Sell (deposit) Repeats value if provided in QuoteRequest	2
60	TransactTime		Y	Time stamp on this deal. (GMT)	
38	OrderQty		Y	Amount being loaned or deposited Repeats value provided in QuoteRequest	1001000
40	OrderType		Y	D=Previously quoted	D

Tag	Field Name	Req'd	Comments	Example
117	QuoteID	Y	Accepted QuoteID reference from Quote message	111aaa
StandardTrailer		Y		

6.3.6 Execution Report

Tag	FieldName	Req'd	Comments	Example
StandardHeader		Y	MsgType = 8	
37	OrderID	Y	OrderID is required to be unique for each chain of orders.	AAA111
526	SecondaryClOrdID	Y	QuoteRequestID	123abc
11	ClOrdID	Y	Client order id	1234fdsa
17	ExecID	Y	Maker trade ID	111AAA
150	ExecType	Y	Valid values: 2=fill 8=rejected	2
39	OrdStatus	Y	Valid values: 2 = filled 8=rejected	2
103	OrdRejReason	N	For optional use with ExecType = 8	
Component block <Instrument>				
55	Symbol	Y	Repeats value provided in quote request	USD
End component block <Instrument>				
54	Side	Y	Order side: 1 = Buy (Loan) 2 = Sell (Deposit)	2
38	OrderQty	Y	The order amount in the currency specified in tag 15.	1001000
1056	CalculatedCcyLastQty	Y	Interest Amount for a LD Note: This is not the calculated quantity of the other side of the trade	
151	LeavesQty	Y	0 for all RFS fills	0
14	CumQty	Y	Same as OrderQty	1001000
6	AvgPx	Y	Same as Price	5.3
58	Text	N	Text description	
StandardTrailer		Y		

7 APPENDIX

7.1 Coordinated Universal Time (UTC) Format

All time and date formats must be in Coordinated Universal Time (UTC), more commonly known as Greenwich Mean Time (GMT). The formats of various dates as defined by the World Wide Web Consortium (W3C) are

- Year:
YYYY (2003)
- Year and month:
YYYYMM (200307)
- Complete date:
YYYYMMDD (20030716)
- Complete date plus hours and minutes:
YYYYMMDD-hh:mm (20030716-19:20)
- Complete date plus hours, minutes and seconds:
YYYYMMDD-hh:mm:ss (20030716-19:20:30)

Where

YYYY = four-digit year
 MM = two-digit month (01=January, etc.)
 DD = two-digit day of month (01 through 31)
 hh = two digits of hour (00 through 23) (am/pm NOT allowed)
 mm = two digits of minute (00 through 59)
 ss = two digits of second (00 through 59)
 s = one or more digits representing a decimal fraction of a second

7.2 Supported Currency Pairs

Currenex supports over one hundred (100) executable streaming currency pairs and six (6) precious metals. Refer to “Currenex Defined Tenors and Supported ESP Currency and Precious Metal Pairs” document for complete details.

7.3 Supported Tenor Values

Refer to “Currenex Defined Tenors and Supported ESP Currency and Precious Metal Pairs” document for complete details.

7.4 Revision History

Revision Number	Revision Date	Page Number	Update
	9 October 2012	*	Document Created
1	22 June 2015	17, 4-20	Section 6.3.3 : QuoteID (117) description updated. Draft watermark removed throughout.
2	30 June 2015	16	Section 6.3.2 : OfferPx (133) added to Quote (35=S) message.
3	9 October 2015	14, 18, 20	Sections 6.3.1 , 6.3.5 , 6.3.6 : Added support for on behalf of trading.